

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number  
**WO 2005/014629 A3**

- (51) International Patent Classification<sup>7</sup>: C12N 15/31, C07K 14/285, A61K 39/102, G01N 33/569 (74) Agent: GRUBB, Philip; Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).
- (21) International Application Number: PCT/EP2004/008464 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 28 July 2004 (28.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0317733.4 29 July 2003 (29.07.2003) GB (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (for all designated States except AT, US): NOVARTIS AG [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).
- (71) Applicant (for AT only): NOVARTIS PHARMA GMBH [AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): DOS SANTOS, Nuno, Miguel, Simões [PT/PT]; Rua Antonio Cruz Barbosa, N° 58A, 2° Esq., P-3870-327 Torreira (PT). DO VALE, Ana, Maria, Silva [PT/PT]; Rua Professora Ofélia da Cruz Costa, n°719, R/C ESQ Frente, P-4455-219 Lavra (PT). TEIXEIRA DA SILVA, Manuel, Alexandre [PT/PT]; Rua Joao Baptista Lavanha, n°111 4°C, P-4150 Porto (PT). DA SILVA AZEVEDO, Jorge, Eduardo [PT/PT]; Rua das Sete Estrelas, 77, P-4430-V.N. Gaia (PT).
- Published:  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 17 November 2005
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROTEIN FROM PHOTOBACTERIUM DAMSELAE AND USE THEREOF

(57) Abstract: A derivative of a 55kDa extracellular protein from *Photobacterium damsela* subsp. *Piscicida* is the basis for a vaccine against *Photobacterium* infection, and thereby protects fish from pasteurellosis.

WO 2005/014629 A3